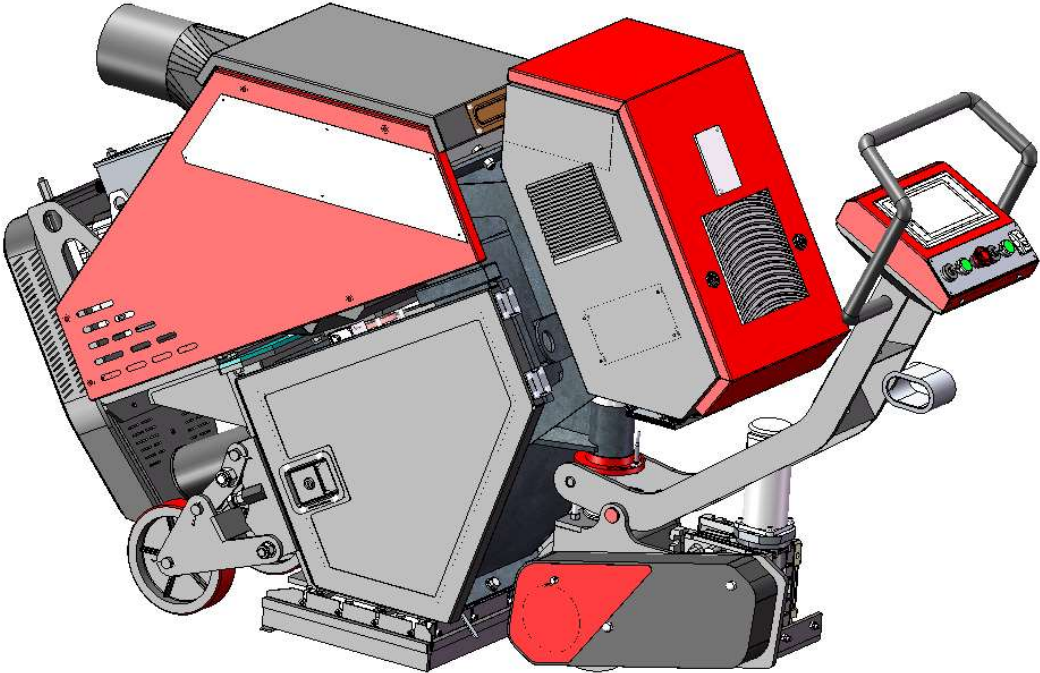


**Manual of CB1-10E Single-head Intelligent Shot Blaster**



CONGLORY a brand of XINGYI, a famous brand specializing in surface shot blasting cleaning and roughening, surface chipping, milling, grinding and polishing equipment for steel, concrete, asphalt, stone and other surfaces.

Products related to concrete industrial floor, epoxy floor coating, decorative landscape floor, surface cleaning of various PVC and stone floor paving. Color pavement and road surface paving; concrete road and railway bridge waterproof layer Laying. Pavement of tunnel paving. Recovery of friction coefficient of airport runway, cleaning of marking lines, anti-skidding of asphalt pavement. Thin layer of asphalt and concrete pavement, base treatment before surface treatment. Anti-corrosion of storage tanks in petrochemical industry and offshore platforms Coating, the cyclic sandblasting surface cleaning before heavy anti-corrosion coating on ship's side, deck and deck of ship repair.

The product range includes mobile self-circulating shot blasting equipment, small milling equipment, grinding and polishing equipment, cutting equipment, pneumatic tools, etc., as well as supporting vacuum cleaners and hand tools.

Our professional sales personnel and technical service personnel are willing to provide you with the best construction equipment and technology for different projects to meet your specific requirements.

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## 1.Introduction

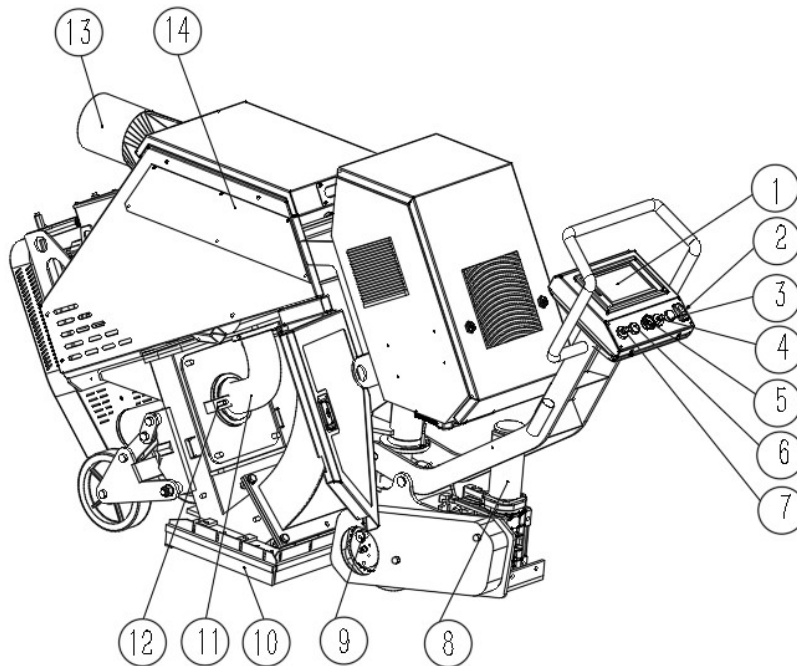
All personnel who operate or maintain this machine must read this manual carefully and fully understand its contents. This manual should be placed near the machine for easy reference.

Only personnel trained and approved by CONGLORY can operate this machine.

## 2.Machine Description

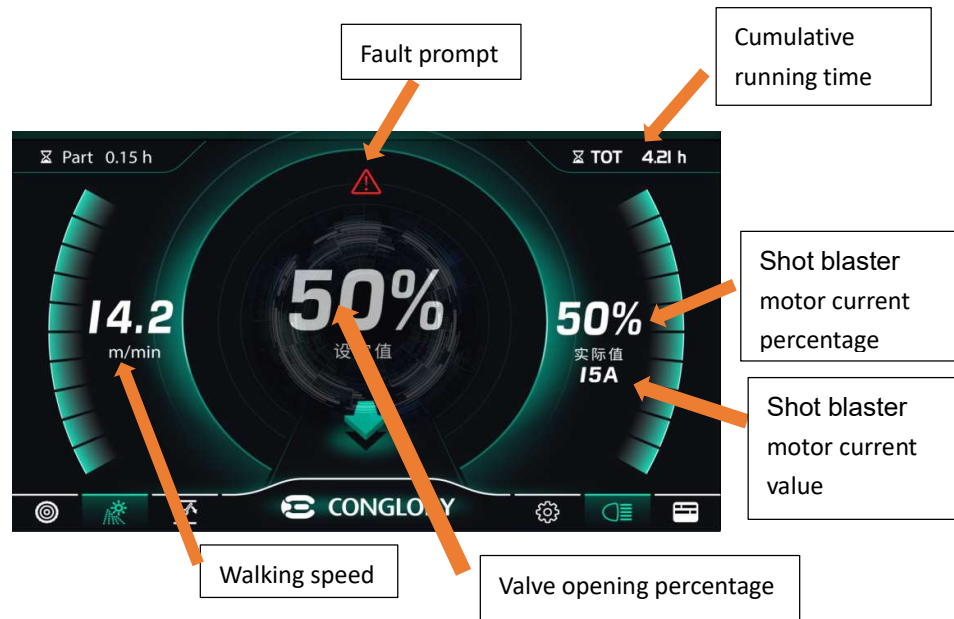
The Shot blaster cleaning machine XINGYI CONGLORY CB1-10E is a downward blasting machine with a close-cycle designed for the pre-treatment of horizontal surfaces. The bouncing impact of metallic abrasive onto the surface to be treated thoroughly removes surface contaminants, coats of paint, sealants and thin coatings.

A suitable filter unit must be connected to the machine in order to separate the dust from the abrasive. A specially designed dust collection system ensures dust-free operation of the blasting.



- |                              |                                  |
|------------------------------|----------------------------------|
| ① Monitor                    | ⑧ Walking drive system           |
| ② Move back and forth switch | ⑨ Walking pin                    |
| ③ Walking Speed control      | ⑩ Abrasive closed components     |
| ④ Speed up switch            | ⑪ Feed Spout                     |
| ⑤ Emergency shutdown         | ⑫ Shot blasting wheel components |
| ⑥ Blasting Start             | ⑬ Connection pipe for dusthose   |
| ⑦ Valve opening              | ⑭ Feed box                       |

1. Monitor: Display parameters, such as voltage, electricity, motor speed, overload warning.

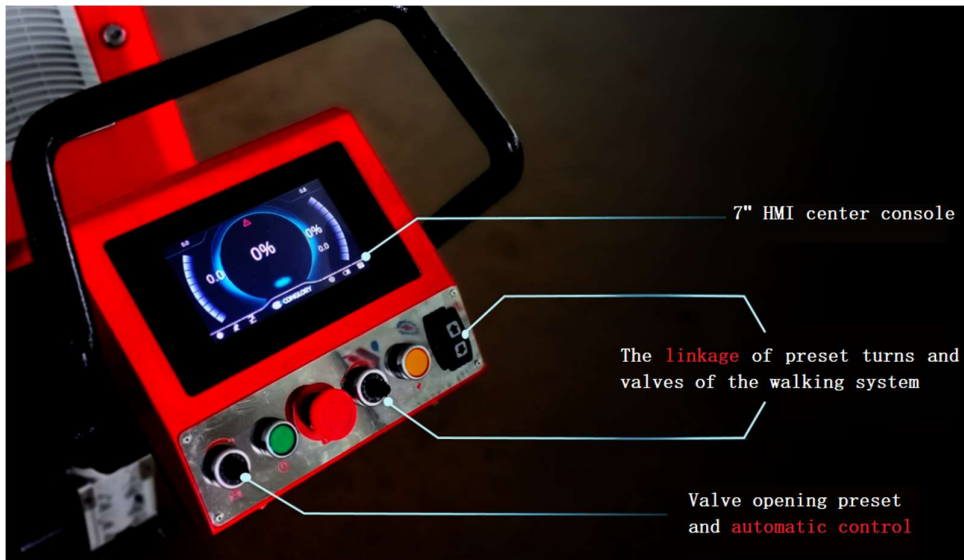


2. Move back and forth switch: Controls the machine direction of travel.
3. Speed control: Adjust the walking speed of the driving wheel.
4. Speed up switch: Control the walking motor to accelerate to the fastest speed.
5. Emergency shutdown: When the CONGLORY CB1-10E is in a dangerous state or needs to stop working, press the emergency shutdown to cut off the power supply and stop

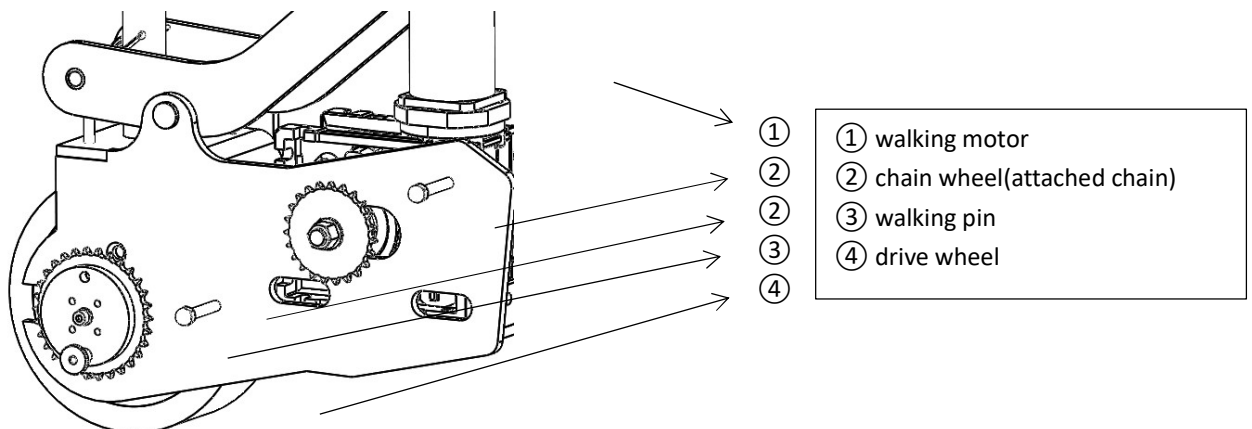
the operation of the machine, to protect the safety of people and the machine.

6. Blasting Start: Control the blasting motor start.

7. Valve opening: adjust the opening degree of the feeding valve to adjust the size of the shot blasting flow.



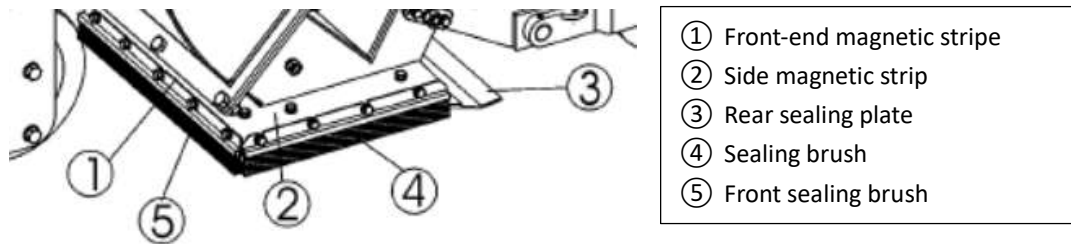
8. Walking drive system:



9. Walking pin: Pull up the walking pin, the shot blasting machine can be pushed by hand; Plug in the walking pin, the machine can be driven by the walking motor.

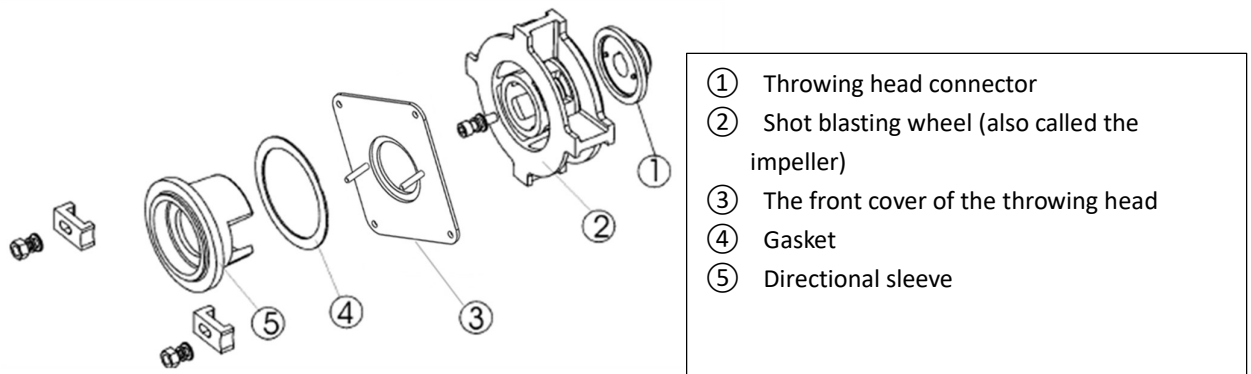
10. Abrasive seal components: The magnetic strip is installed on the front and side of the shot blasting opening, and the sealing brush is surrounded on the outside. The rear sealing plate is installed at the rear, which is covered on the ground. The function of the sealing device is to seal the shot blasting area to prevent the abrasive from flying out. The

adjustment of the distance between the magnetic stripe and the ground (height 8-10mm) is very important. The height adjustment can be done through the bolts and the bolt of the drive system.



11. feedspout; Shot blasting from the feed box down from this position to the inner cavity of the shot blasting wheel

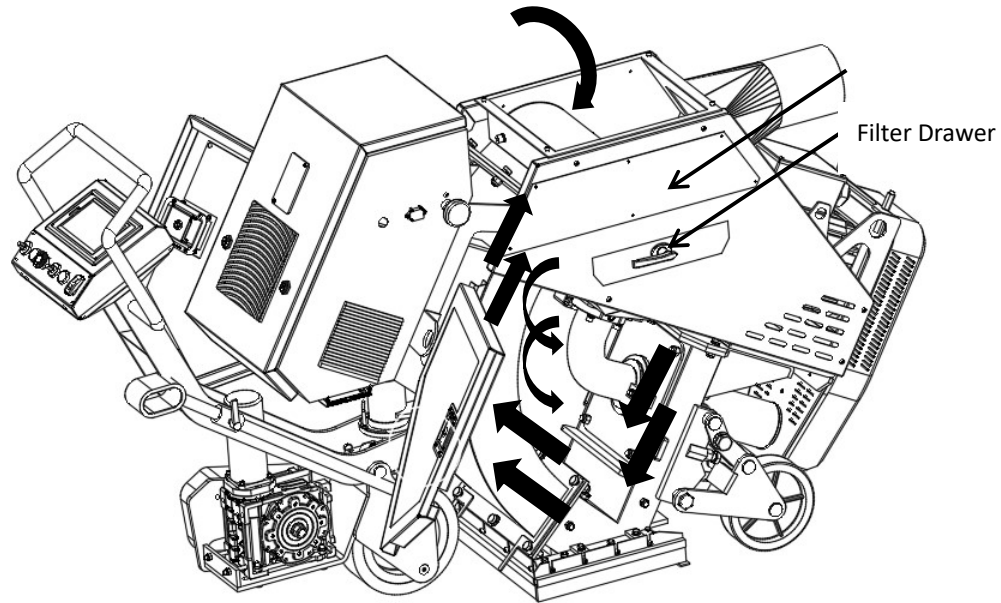
12. Centrifugal wheel components: The core part of the shot blaster is the centrifugal wheel that throws abrasive to hit the surface by centrifugal force. The centrifugal wheel is installed in the shot blasting room with a replaceable protective board. The centrifugal wheel is driven by the shot blasting motor. In the center of the centrifugal wheel is a distribution wheel (4 pillars), which distributes the shot material that enters the blade. At the top is the directional sleeve, which needs to be carefully installed to control the direction of the shot.



13. Connection pipe for dust hose: The vacuum tube is fixed here and connected to the vacuum cleaner

14. Feed box : Open the lid, pour clean abrasive into the box to work. It is also the end of the rebound room. After the abrasive is blasting to the floor surface, it rebounds back

to the box through the arc-shaped guide tube. The abrasive and dust are separated, and the clean abrasive enters the storage hopper to continue to circulate. The filter drawer in the box can prevent large impurities from entering the shot blasting wheel and can be pulled out from the side for cleaning.



### 3. Safety

Before operating the machine, the personnel must be familiar with the safety instructions given in this manual.

Only personnel trained and approved by CONGLORY can operate this machine

Keep this manual near to the machine, so it can always be consulted.

#### 3.1 Safety measures

1. The surface to be treated must be swept clean, removing any debris.
2. Never use the machine when the surface is not clear and if there is a risk of tripping.
3. The workplace environment must be well lit.
4. Make sure there is not any water on the surface to be treated.



5. Remove any trailing electrical cables and or dust hoses from the treated surface.
6. Don't get distracted during the operation.
7. Always switch on the dust collector

### 3.2 Safety regulations

1. Persons who do not operate the machine are not permitted to stay in the surrounding of the machine. Don't leave children anyway.
2. Keep the machine original setting up; Use cables that are approved and not damaged. Never remove the earth connecting of the supply cable and machine. Use only cables with earth wire and connectors with a proper ground.
3. Connect main power supply cable to a breaker with a proper ground.
4. Inspect and test the electrical components of the machine regularly. These electrical components have to satisfy to the requirements of EN60204-1.
5. Always call a skilled electrician when you have questions about the safety of the electrical components.
6. Work on electrical equipment and materials may only be undertaken by a skilled electrician or by trained persons under the guidance of a skilled electrician
7. Disconnect the main plug during inspections and repairing on the machine.
8. Never operate the machine when floor is wet.
9. Never store the machine in the rain.



The following stickers on the machine:

Meanings of these symbols are:

1. Ear protection is required.
2. Safety glasses with lateral protection are required.

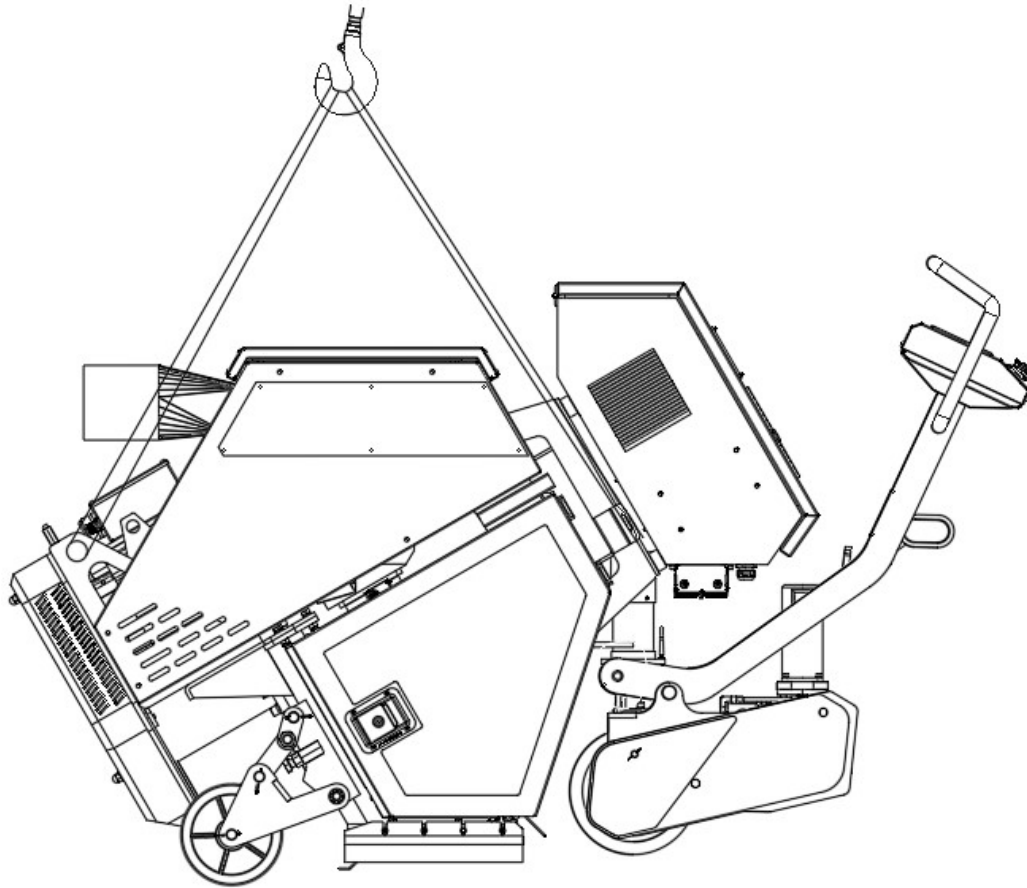
3. CE-mark on this machine
4. Safety shoes required.
5. Consult the manual before operating the machine.

Personnel must tie back long hair and not wear loose clothing or jewellery including rings.

Wear gloves and dust mask during operating the machine.

### **3.3 Safety instructions**

1. Steel Abrasive can escape from the sides of the blast head at high speed. Wear safety glasses with lateral protection and close-fitting protective clothing.
2. Be very careful when inserting the walking pin.
3. The machine must be free of oil and should be dry.
4. The dust container / bag of the filter unit must be emptied regularly. Comply with the local waste treatment regulations considering the removed material.
5. The weight of the CB1-10E is 380 kg. To transport the machine with a crane or lift, use the designated lifting eyes on the machine.
6. Pay attention that the drive unit do not turn away during lifting the machine.



## **4. Initial Operation**

Before using this machine it is of great importance to inspect the machine. It is not permitted to use the machine if the machine safety does not meet the checkpoints below.

### **4.1 Checkpoints powersupply**

1. Please use the cable that meets the overall power consumption of the machine.
2. The cable must be fully unwound, not coiled, or clumped together
3. Inspect the electrical cables for any damage before use.
4. Use a electrical power supply connection with earth connecting.

### **4.2 Checkpoints of machine**

1. Safety functions and operating buttons must work correct.
2. Check the following parts for damage and wear: centrifugal wheel, feedspout,

protective board, magnet- and brush sealing.

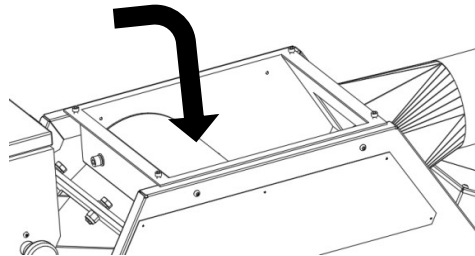
- 3.No loose bolts and nuts permitted
- 4.No damage of electrical components permitted.
- 5.Dust hose must be undamaged, and the connection must be secure.
- 6.Check the parts of the separator on wear and defects. Remove foreign bodies and dust deposits.

## 5. Operating

Please follow the steps below to operate the CB1-10E shot blasting machine

### 5.1 The preparation before switch on

- 1.Fill abrasive to the screen position in the abrasive hopper



2. Insert the walking pin

- 1)Open the chain cover of the drive system

- 2)Press the spring button, and then insert the walking pin into the hole of the chain plate.



- 3) Slowly pull the shot blasting machine, at this time the chain plate starts to rotate.

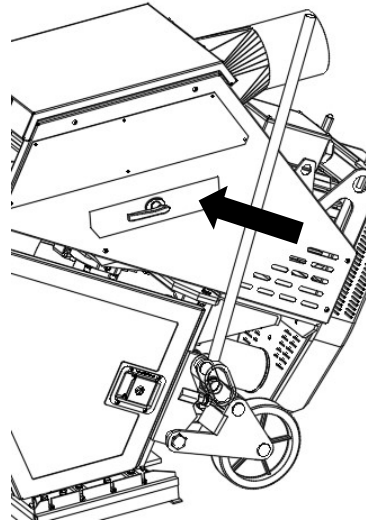
Insert the walking pin to lock the chain plate, at this time the machine can only be driven by the motor, and the machine can no longer be pulled.

- 4)Close the chain cover of the drive system

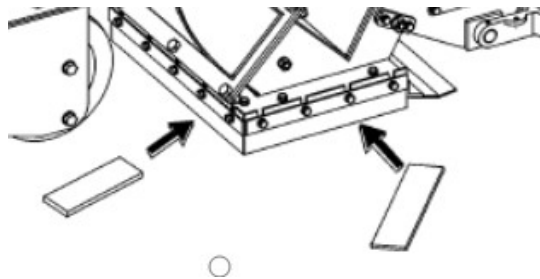
3. Adjust the height of wheels

Set the lifting rod of the shot blasting machine into the axle seat, and pull the lifting rod

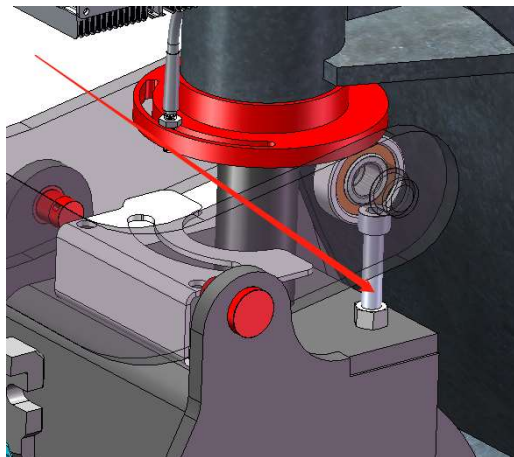
in the direction shown on both sides to adjust the machine to the working height.



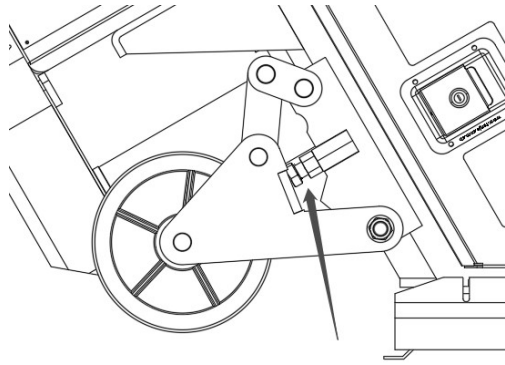
4. Check the height (the factory setting is 10-12 mm) of the shot blasting port by a standard thickness aluminum block



If it is not within the range of 10-12 mm, it can be adjusted through the bolts on the rear wheel of the machine and the bolts of the drive system.



Loosen the nut first and then adjust the length of the bolt. If the bolt is shortened, the height of the machine from the ground will decrease, otherwise, it will increase.



Loosen the nut first and then adjust the length of the bolt. If the bolt is shortened, the height of the machine from the ground will decrease, otherwise, it will increase.

The height of the machine from the ground should be possible to insert an 12 mm plate into the bottom of the machine's magnetic seal.

Check the power supply cable and filter unit connection.

Connect the blast machine and filter unit with pipe clamp to fix the connecting pipe.

Connect the machine with the cable of filter unit.

Connect the filter unit cable to the power supply. Make sure the power supply is 3P 380 25A or 3P 220V 40A.

## 5.2 Switch on the machine

1. Switch on the filter unit

Refer to the operating instructions of the filter unit

2. Prepare to operate the shot blasting machine

(1) Confirm that the "valve opening " is at the "minimum" position (turn it counterclockwise to the end).

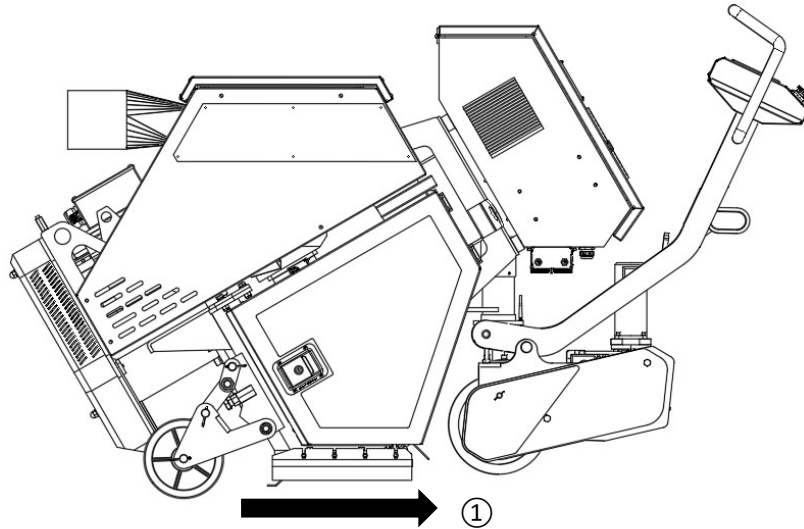
- (2) Turn on the emergency shutdown button.



3. Operate the machine

(1) Press the "blasting start" and the blast motor starts;

(2) Press the "Move back and forth switch" backwards, set the walking direction to be backward, the machine will walk in the direction ①, and then adjust the walking speed of the machine by the "walking speed control";



(3) When the machine starts to walk, slowly rotate the "valve opening " to adjust shot blasting force according to the required profile;

(4) When blasting length is about 2 meters, close the shot valve, and check the result of the blasting;

(5) If the blasting is uneven, the shot valve needs to be adjusted, or the walking speed needs to be adjusted.

[Adjust the direction of throwing, that is, adjust the angle of the directional sleeve: see 6.4 for details](#)

Note:

1) When operating shot blasting on the concrete surface, only start to open the valve when the machine is moving, otherwise it will create deeper texture on the concrete surface in a short time.

2) If the head of the machine needs to be lifted, the abrasive valve must be closed. When the head of the machine is pressed down, the abrasive will fly out from the bottom shot blasting opening at a high speed.

3) The dust collector / bag of the filter unit must be emptied regularly.

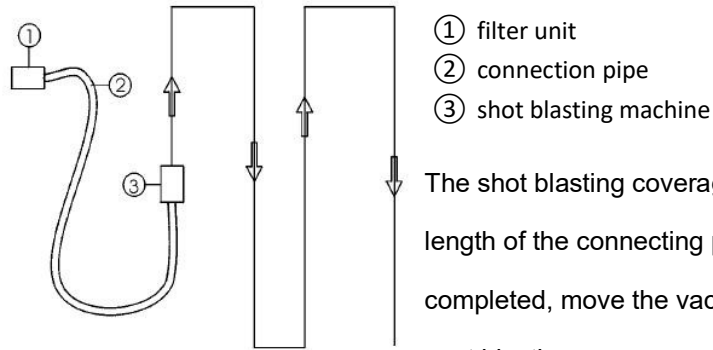
### **5.3 Recommended walking speed**

The correct processing speed depends on the surface condition, hardness and the CSP profile that needs to be achieved. The correct processing speed can be changed and observed during the shot blasting process. The mild shot blasting effect can be achieved at

a higher speed (6-10). Shot blasting on the steel surface requires a slower processing speed (0-2).

## 5.4 Recommended blasting trajectory

Place the vacuum cleaner close to the power supply



The shot blasting coverage area depends on the length of the connecting pipe. After the blasting is completed, move the vacuum cleaner into the next blasting area.

## 5.5 Switch off the machine

Rotate the "valve opening potentiometer" to the minimum position (turn it counterclockwise to the end);

Press the "start button of the blasthead" and the blast motor is turned off;

Press the "front and rear rocker switch" in the horizontal position, and the machine stops walking at this time;

Press the emergency shutdown to stop the machine;

Turn off the filter unit;

Be sure to stop all moving parts before maintenance.

## 6. Maintenance

### 6.1 Introduction

1. Clean the machine every day by compressed air instead or vacuum.
2. The machine should be placed in a dry room. The motor needs to be protected from moisture, fire, dust and vibration. Clean the dust inside the vacuum cleaner. Take out the steel shot from the hopper.
3. All maintenance work must be completed by CONGLORY professionals, so as to ensure the reliable operation of the machine.



4. If the following situations occur, we will no longer provide warranty for the machine

- 1)Original spare parts from CONGLORY are not used
- 2)Maintenance work is not done by CONGLORY professionals
- 3)Any machine modification without the written permission of CONGLORY

## 6.2 Maintenance and inspection item

This item is only a suggestion because of the different situations on site.

Operating time	inspection and Maintenance item
After 12 hours of operation	Check all safety devices; check all fasteners;
Every 3 hours	Check whether there is any foreign bodies in the screen and the feed inlet;
Every day and when you start to use the machine	Check fasteners; Check the connecting pipe; Check the shot blasting wheel, feed inlet, protective board, etc. for damage and wear; Check the wear of the baffle in the storage hopper for foreign bodies or other things, and clean it up; Add abrasive. Check the wear of the magnetic sealing device and replace if necessary. Check the motor part, whether the motor part is well connected, whether there are foreign objects and a lot of dust, and clean it up
Every year	Complete overhaul and maintenance;

## 6.3 Blasting marks

The abrasive has a certain angle when it is thrown out by the shot blasting wheels. This angle is determined by the opening position of the shot nozzle. Therefore, it's very important to adjust the opening position of the shot nozzle correctly in the use of the machine.

The incorrect setting of the opening position of the shot nozzle will cause parts wear and damage to the machine, and greatly reduce the efficiency of the machine.

When the shot nozzle and shot blasting wheel are replaced, the holding bolts must be replaced. (Please make sure no dust and abrasive in the bolt holes). After each replacement, you can turn on the machine for a short time without abrasive, and check whether there is friction and abnormal vibration between the rotating parts. Only after this can the machine be used.

#### **6.4 Adjustment of directional sleeve and shot blasting marks**

In order to get a uniform treated surface, the adjustment of shot blasting marks is very important. Abnormal shot blasting marks are as follows:

- (1) Uneven left side and right side.
- (2) Abnormal wear of the centrifugal wheel and protective board

The following 4 points will cause abnormal shot blasting marks.

- (1) Rotation direction of centrifugal wheel.

It must be ensured that the centrifugal wheel rotates according to the direction of rotation marked on the machine.

- (2) Worn centrifugal wheel parts.

Excessive wear of centrifugal wheel components will cause shot blasting marks to change.

- (3) The size of the abrasive used.

The size of abrasive will affect the mark. The mark should be adjusted after changing the size of abrasive every time.

- (4) the opening position of shot nozzle

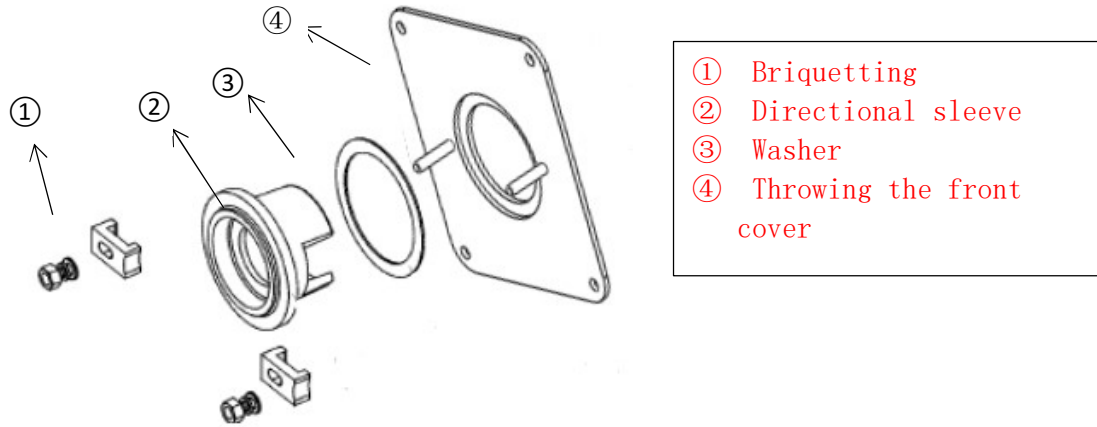
The opening position of the shot nozzle determines the direction of shot blasting, which directly affects the result of shot blasting.

The position of the shot nozzle needs to be adjusted every time the shot blasting components are replaced.

- (5) Set up a directional sleeve.

When adjusting the shot nozzle, you need to loosen the upper pressing device, and then rotate the shot nozzle. There is a gap on the edge of the shot nozzle to indicate the

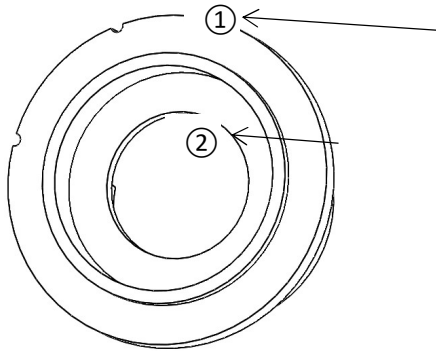
position of the opening of the shot nozzle. Different steel abrasive have different throwing directions and accelerations because of their different weights. So We do not recommend mixing different shots.



The shot nozzle can be adjusted according to the following steps:

1. Confirm the upper ① opening mark and lower ② opening mark on the edge of the shot nozzle.

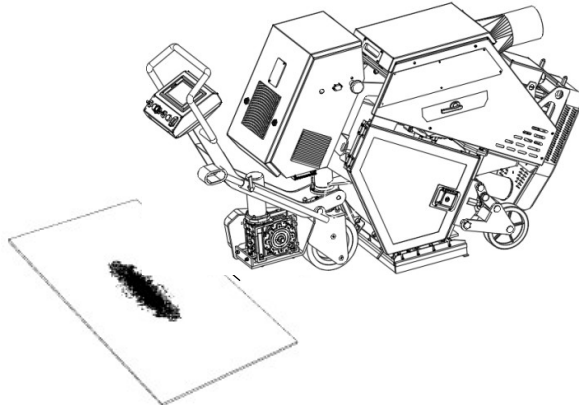
2. Set the position of the upper opening (1) at the direction of about 11:30, and then press the directional sleeve by fixing the pressing plate; install the feed inlet.



3. Move the machine to about 5-8mm thick steel plate, under full load, blast the steel plate for about 45 seconds.

4. Remove the machine and check the blasted steel plate.

You can check the blasted steel plate. The dense areas are caused by a large number of shots. They are usually brighter than other places and the temperature is higher.



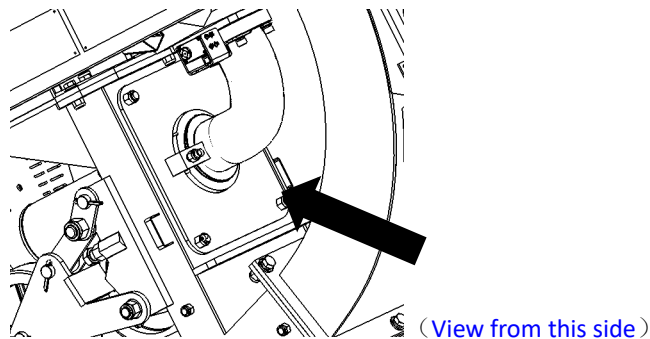
Adjust the position of the mark ① to make the hot spot is at the center of the shot blasting mark.

The machine can be used after adjustment, Pay attention to the concrete surface treatment. As the parts wear out, the shot blasting marks will change;

Note: When the machine is still running, the adjustment of the shot nozzle is not allowed!

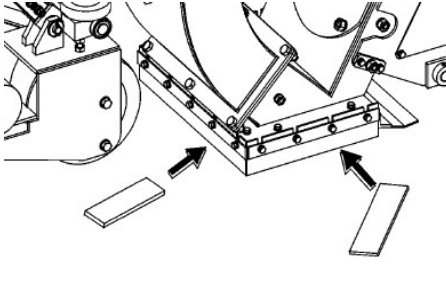
According to the left side and right side conditions of the blasting marks, the adjustment rotation of the shot nozzle is about 3-6mm.

If you look at the center of the machine, the left marks are light, and the shot nozzle needs to be adjusted clockwise; the left marks are heavy, and the shot nozzle needs to be adjusted counterclockwise.



## 6.5 Adjust the sealing device

Adjust the height of the sealed magnetic strip, about 8-10mm and parallel to the surface to be treated.



- 1.Height adjustment can use 8mm thick stainless steel plate.
- 2.The height of the sealing brush should not exceed 1mm from the ground,
- 3.For specific adjustment methods, see 5.1.4.

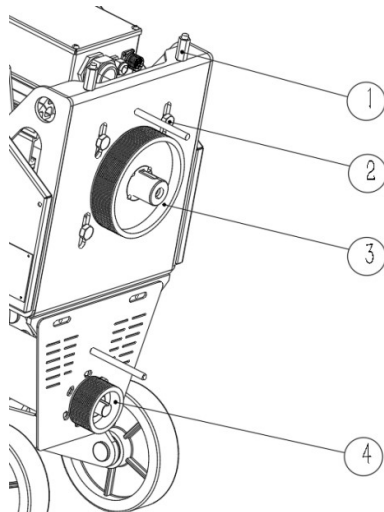
## 6.6 Belt drive

The belt should not be too tight, which will cause the belt to break and damage the bearing; too loose the belt will cause the temperature of the belt to rise and damage the belt.

During operation, the belt cover must not be left to avoid contact with oil, grease and other chemical substances.

### (1) Adjust the belt

Loosen the motor fixing screw ② and loosen the tension adjusting nut ① counterclockwise to loosen the belt; otherwise, tension the belt.

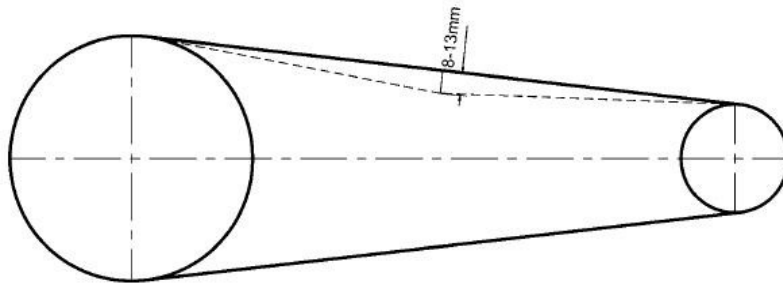


- |                             |
|-----------------------------|
| ① Tighten the adjusting nut |
| ② Motor fixing screw        |
| ③ Active pulley             |
| ④ Driven pulley             |

### (2) Tension of the belt

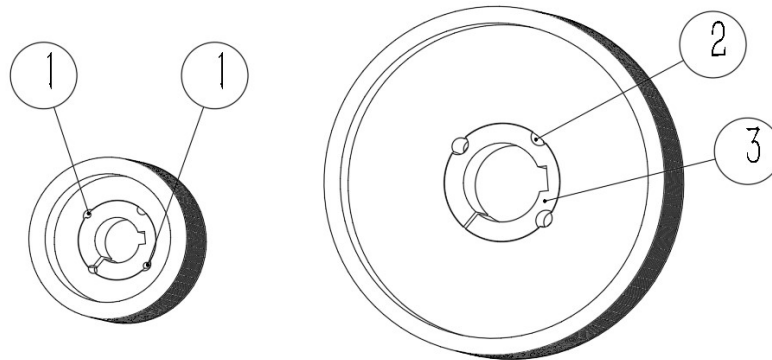
The tension of the belt affects the performance of the motor and the bearing directly .

The proper tension is as shown in the picture below.



### (3) Pulley

The pulley structure is as shown in the pics below



### (4) Disassemble the pulley.

Loosen the bolt (1) and screw it in at the position (2), then the middle taper sleeve (3) can be pushed out, and the belt pulley can be removed.

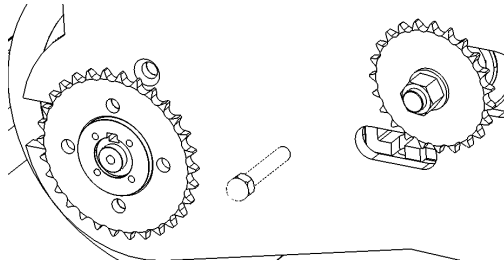
### (5) Install the pulley

Clean the contact surface, and use a wooden or rubber hammer to drive (3) in. Make sure it is concentric and tighten (1).

## 6.7 Chain drive

The chain drive part needs regular cleaning and maintenance, which is very important to protect the drive part of the machine.

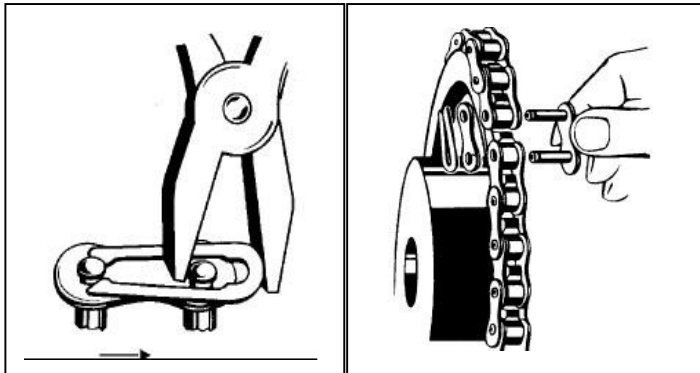
### (1) Install the sprocket



The correct installation method of the sprocket is as shown in the pics above. Make sure it is on the same plane and use the key to connect.

### (2) Install the chain

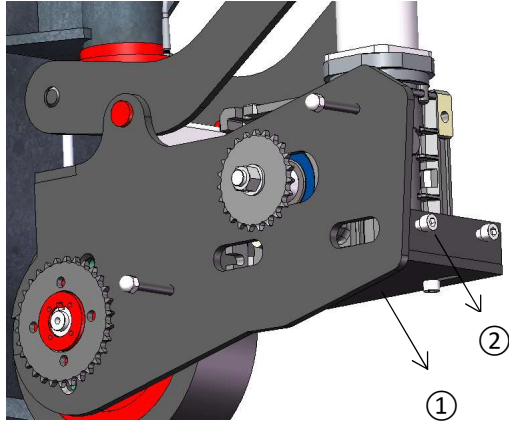
When installing the chain, make sure that the chain is clean. The installation method is as shown in the pics below.



### (3) Maintenance and repair of the chain

The chain drive needs to be inspected and cleaned every 3 months; clean up the dust and contaminants of the chain completely. Ensure the cleanliness of the chain. The chain can be cleaned using a typical chain cleaner.

### (4) Adjust the chain tension

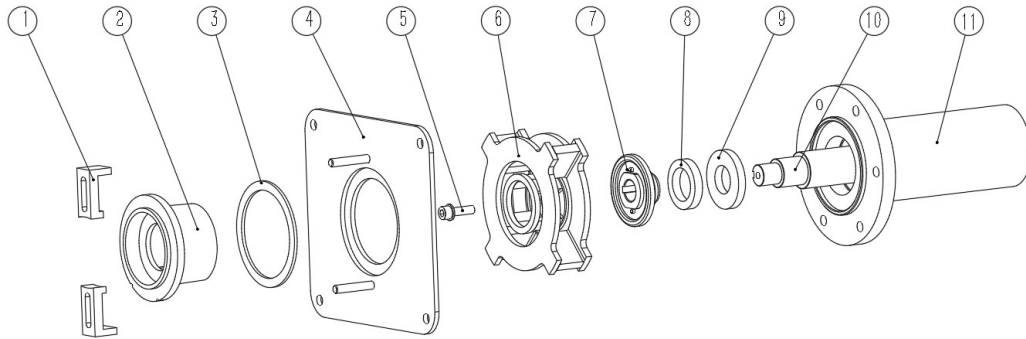


As shown in the picture. Loosen the fixing screw bolt ① of the motor, and then adjust the tightness of the chain by adjusting the length of the bolt ②. The correct degree of tightness is shown in the picture.

The intermediate press distance is about 5mm.

## 6.8 Quick-wear parts

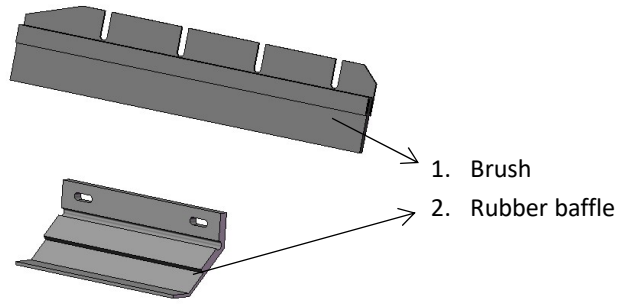
(1) Shot blasting component



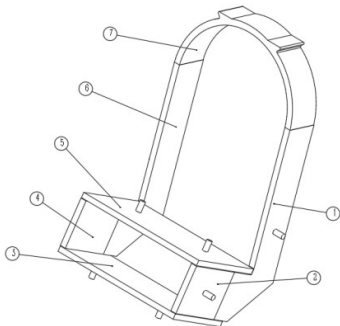
1. Briquetting	4.front bezel of centrifugal wheel	7.centrifugal wheel connector	10.Spindle
2.Direction sleeve	5.Fixed screws of blasting head	8.Felt	11.Spindle seat
3.washer	6. Centrifugal wheel	9.Lip seal	



(2) Seals



(3) Lining board

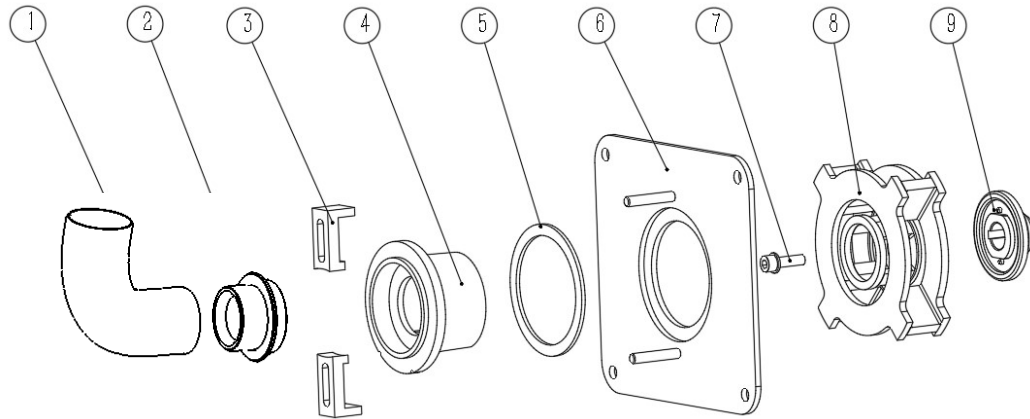


- ① 7-shaped left protective board
- ② Square left protective board
- ③ Lower protective board
- ④ Square protective board right
- ⑤ Upper protective board
- ⑥ 7-shaped right protective board
- ⑦ top protective board

### 6.9 Disassemble the blasting head components

1. Disassembly, as shown in the picture, the steps are as follows.

- 1) Disassemble the feed inlet, ①②
- 2) Loosen the briquetting ③, remove the directional sleeve ④ and the washer ⑤
- 3) Remove the bolts, remove the front fixing plate of the blasting head ⑥
- 4) Remove the bolt ⑦, remove the centrifugal wheel ⑧
- 5) Check the connecting plate ⑨, if necessary, replace it.



## 2.Installation

- 1) Follow the description in the picture above and install in the reverse order of disassembly;
- 2) When installing the shot nozzle, please refer to the section 6.4 of the opening position of the shot nozzle described above to check its concentricity and the distance from the bottom of the shot blasting wheel. If necessary, you can replace the pad to adjust, install and fix the shot nozzle. Manually rotate the centrifugal wheel to confirm that it can rotate freely;

## 6.10 Replace the protective board

1. Disassemble the protective board.
  - 1) Disassemble the bolts and remove the cover.
  - 2) Loosen the bolts and take out the left and right board from the bottom of the machine.
  - 3) After removing the left and right protective board, the top protective board can be taken out from the bottom of the machine.
  - 4) The protective board can be taken off the front of the machine after loosening the bolts at the rear of the shot blasting room.
  - 5) Loosen the bolts, the protective board can be took out from the bottom.

## 2.Installation

- 1) Clean the mounting holes and bolts before installation, and check whether they are in good condition.

## 7. Troubleshooting

Failure phenomenon	Possible reason	Approach
Abnormal vibration	The shot blasting wheel is severely worn	Replace it
Abnormal vibration	There is a foreign body in the shot blasting system	Clean up
	Loose bolts	Check all fasteners
	Wheel noise	Replace it
	The motor locks	Replace it
Shot blasting weak	Abrasive blockage	Check whether there is blockage; add abrasive
	Failure of sand valve	Check and adjust the sand valve
	Shot blasting wheel and directional sleeve	Replace it if excessive wear
	"The shot blasting wheel shakes" Tossing too heavily at the beginning	Turn off the machine, restart it, and slowly open the sand valve
	Walking too fast	Adjust it
Abrasive spilled	Magnetic plate height is incorrect	Adjust the height
	Magnetic plate wear	Replace it
	Abrasive quality or ground strength does not meet the requirements	Contact <a href="#">XINGYI</a>
	Shot blasting wheel wear	Replace it
	The direction of rotation is incorrect, or the angle of the orientation sleeve is incorrect	Adjust
Abrasive contamination	The filter is not strong enough	Check the connecting pipe, filter element, etc., replace if necessary;
Excessive wear	Use incorrect abrasive	Contact <a href="#">XINGYI</a>
	The opening position of the directional sleeve is incorrect	Adjust
The machine doesn't move	Walking speed is too low	Adjust
	The front of the device touches the ground	Press down the front in a short time

## 8. Abrasive selection

XINGYI CONGLORY supplies abrasive, please consult our professionals for specific specifications and conditions of use, and we will provide you with an optimal solution.

## 9. Technical data

	CB1-10E
Power	11KW
Power connection (There is a prompt on the voltage value electric control box)	3P 480 25A /3P 224V 40A
Shot blasting width	250 mm
Walking speed	0 – 23 m/min
Length	1985 mm
Width	490 mm
High	1200 mm
Weight	380 kg
Noise level (under loading conditions)	88dBa
Vibration level	0.5 RMS
Diameter of dust hose	Ø150 mm

XINGYI reserves the right to change technical parameters and designs without notice.